Effects of Entrepreneur and Firm Characteristics on Performance of Small and Medium Enterprises in Yangon

ဒီသုတေသနမှာ **အသေးစား နှင့် အလတ်စား စီးပွားရေးလုပ်ငန်းများ (SMEs)** ရဲ့အောင်မြင်မှုကို သက်ရောက်နေတဲ့ အကြောင်းရင်းတွေကို စစ်တမ်းကောက်ယူပြီး စစ်ဆေးခဲ့ပါတယ်။

၁။ ဒေတာ ရင်းမြစ် (Source of Data)

- **ဒေတာအမျိုးအစား** : **Secondary data** ကို သုံးခဲ့တယ်။
- **ဒေတာ ရယူပုံ** : **မြန်မာနိုင်ငံ အသေးစား၊ အလတ်စား စီးပွားရေးလုပ်ငန်း စစ်တမ်း (Myanmar Micro, Small and Medium Enterprise Survey)** က ၂၀၁၇ ခုနှစ်မှာ **ရန်ကုန်တိုင်းဒေသကြီး** မှာ ကောက်ယူခဲ့တဲ့ ဒေတာကို ပြန်သုံးခဲ့တယ်။
- **လူဦးရေ** : လူဦးရေ ၁၄,၁၁၁ ဦး ရှိခဲ့ပြီး၊ ယင်းထဲကနေ **နမူနာ ၃၅၈ ခု** ကို ရွေးချယ်ခဲ့တယ်။
- **သုတေသီကိုယ်တိုင် ကောက်ယူတာမဟုတ်ပါ။**

၂။ သုတေသန နမူနာရွေးချယ်မှု (Sample Design)

- **နမူနာရွေးချယ်နည်း** : ဒီသုတေသနမှာ **နမူနာရွေးချယ်တဲ့ နည်းလမ်းကို အတိအကျ ဖော်ပြထားခြင်းမရှိပါ။** ဒါပေမယ့် မူလစစ်တမ်းက **နိုင်ငံတော်အဆင့် ကိုယ်စားပြု နမူနာ (Nationally Representative Sample)** အဖြစ် ကောက်ယူထားတာဖြစ်တယ်။

၃။ ဒေတာ စုဆောင်းမှု ကိရိယာ (Data Collection Tool)

- **Survey Questionnaire (စစ်တမ်းမေးခွန်းလွှာ)** ကို သုံးခဲ့တယ်။
- မေးခွန်းလွှာမှာ **လုပ်ငန်းရှင်ရဲ့လက္ခဏာများ (Entrepreneur Characteristics)** နဲ့ **လုပ်ငန်းရဲ့လက္ခဏာများ (Firm Characteristics)** ဆိုပြီး အချက်အလက် ၁၇ မျိုးခန့် ပါဝင်တယ်။
    - ပညာအရည်အချင်း၊ အလုပ်အတွေ့အကြုံ၊ လူမျိုး
    - လုပ်ငန်းအရွယ်အစား၊ လုပ်ငန်းသက်တမ်း၊ ပိုင်ဆိုင်မှုပုံစံ

- အင်တာနက်သုံးစွဲမှု၊ သယ်ယူပို့ဆောင်ရေး အဆင်ပြေမှု (ဥပမာ - မီးရထားလမ်း၊ ဆိပ်ကမ်း)
- အလုပ်သမားခန့်အပ်နည်း၊ စျေးကွက်ရှာဖွေရေး နည်းဗျူဟာ၊ စီးပွားရေးအသင်းဝင်မှု စတာတွေ ပါဝင်တယ်။

၄။ ဒေတာ ခွဲခြမ်းစိတ်ဖြာနည်း (Data Analysis Methods)

သုတေသနမှာ **နည်းလမ်း နှစ်မျိုး** ခွဲခြမ်းစိတ်ဖြာခဲ့တယ်။

(က) ဖော်ပြချက် စာရင်းအင်း (Descriptive Analysis)

- လုပ်ငန်းရှင်တွေရဲ့ **လူမှုရေးအချက်အလက်တွေ** (ပညာအရည်အချင်း၊ အလုပ်အတွေ့အကြုံ၊ လူမျိုး) နဲ့ **လုပ်ငန်းဆိုင်ရာ အချက်အလက်တွေ** (လုပ်ငန်းအရွယ်အစား၊ သက်တမ်း၊ အင်တာနက်သုံးစွဲမှု) တွေကို **ရာခိုင်နှုန်း (%)** နဲ့ ပြသခဲ့တယ်။
- ဥပမာ: ဘွဲ့ရလုပ်ငန်းရှင် ၅၅%၊ ဗမာလူမျိုးပိုင်လုပ်ငန်း ၇၂.၃%၊ အင်တာနက်သုံးတဲ့လုပ်ငန်း ၂၁.၂%။

(ခ) Multinomial Logistic Regression

- ဒီနည်းလမ်းကို **ဘာကြောင့်သုံးသလဲ?**
  - ဘာဖြစ်လို့လဲဆိုတော့ **လုပ်ငန်းအောင်မြင်မှု** ဆိုတဲ့ ရလဒ်က **ဆုံးရှုံးခြင်း (Loses)၊ အရင်းအတိုင်းဖြစ်ခြင်း (Break-even)၊ အမြတ်ရခြင်း (Profits)** ဆိုတဲ့ ရွေးချယ်စရာ ၃ ခု ရှိလို့ပါ။ (အဖြေ ၂ ခုပဲဆိုရင် Binary Logistic Regression သုံးရပါမယ်)။
- **ရည်ရွယ်ချက်** : ဘယ်အကြောင်းရင်းက လုပ်ငန်းအောင်မြင်မှု အဆင့် ၃ မျိုးထဲက ဘယ်တစ်ခုကို **ဖြစ်နိုင်ခြေ ပိုများစေသလဲ** ဆိုတာ **ခန့်မှန်းတွက်ချက်ဖို့**။
- **မော်ဒယ် ကောင်းမွန်မှုကို စစ်ဆေးခြင်း**:

- **Model Fitting Information** : မော်ဒယ်က ဒေတာနဲ့ **ကိုက်ညီမှုရှိလား** စစ်ဆေးတယ်။ (p-value = 0.017 < 0.05) မော်ဒယ်က ကောင်းမွန်စွာ ကိုက်ညီတယ်လို့ ဆိုလိုတယ်။
- **Pseudo R-Square** : မော်ဒယ်က လေ့လာချက်ကို **ဘယ်လောက်ရာခိုင်နှုန်း ရှင်းပြနိုင်သလဲ**။ (Nagelkerke R-Square = 0.265) ဆိုတော့ ၂၆.၅% ရှင်းပြနိုင်တယ်။

- **ရလဒ်** : အောက်ပါအချက်တွေက လုပ်ငန်းအောင်မြင်မှုကို **သိသိသာသာ သက်ရောက်မှုရှိတယ်**။
    1. **လုပ်ငန်းအရွယ်အစား (Firm Size)** : လုပ်ငန်းသေးရင် အမြတ်ရနိုင်ခြေ **နည်းတယ်**။
    2. **သယ်ယူပို့ဆောင်ရေး (Access to Rail/Port)** : မီးရထား/ဆိပ်ကမ်း ရှိရင် **ဆုံးရှုံးနိုင်ခြေ နည်းတယ်**။
    3. **အလုပ်သမားခန့်အပ်နည်း (Employment Status)** : မိတ်ဆွေအကြံပေးချက်နဲ့ ခန့်ရင် **အမြတ်ရနိုင်ခြေ ပိုများတယ်**။
    4. **စီးပွားရေးအသင်းဝင်မှု (Business Association)** : အသင်းဝင်ရင် **ဆုံးရှုံးနိုင်ခြေ နည်းတယ်**။

သတိထားရမယ့်အချက် : **လုပ်ငန်းရှင်ရဲ့ ပညာအရည်အချင်း၊ အလုပ်အတွေ့အကြုံ၊ လူမျိုး** တို့က **အောင်မြင်မှုနဲ့ သိသိသာသာ ဆက်စပ်မှုမရှိဘူး**လို့ တွေ့ရတယ်။

၅။ သုတေသနရဲ့ ကန့်သတ်ချက်များ (Limitations of the Study)

- ဒေတာအဟောင်း (၂၀၁၇) ကို ပြန်သုံးထားတာမို့ လက်ရှိအခြေအနေနဲ့ ကိုက်ညီမှု အနည်းငယ် အားနည်းနိုင်တယ်။
- ရန်ကုန်တိုင်းတစ်ခုတည်းကို လေ့လာထားတာမို့ တစ်နိုင်ငံလုံးအတွက် ကောက်ချက်ချလို့ **မရနိုင်ပါ**။

အတိုချုပ်

ဒီသုတေသနမှာ **secondary data** ကို ယူပြီး၊ **Multinomial Logistic Regression** ကို သုံးပြီး **SMEs အောင်မြင်မှုကို သက်ရောက်စေတဲ့ အဓိကအကြောင်းရင်းများ** ကို ရှာဖွေခဲ့တယ်။ ရလဒ်အရ **လုပ်ငန်းရှင်ရဲ့ပုဂ္ဂိုလ်ရေးအရည်အချင်းတွေထက် လုပ်ငန်းရဲ့အရွယ်အစား၊ သယ်ယူပို့ဆောင်ရေး အဆင်ပြေမှု၊ အလုပ်သမားခန့်အပ်နည်း၊ စီးပွားရေးအသင်းဝင်မှု** တို့က **ပိုပြီး အရေးကြီးကြောင်း** တွေ့ရှိခဲ့တယ်။

YANGON UNIVERSITY OF ECONOMICS
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This thesis is submitted as a partial fulfillment toward the degree of Master of Applied Statistics.

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ABSTRACT

This study attempted to assess the factors that are affecting performance of small, medium enterprise (SMEs) in Yangon Region. The study is based on the secondary data which is the dataset from Myanmar Micro, Small and Medium Enterprise Survey conducted in 2017, Yangon Region in which the sample of 358 selected from the 14111 population. The study applied on a sample of SMEs performance the respondent of owners, and managers from manufacturing sectors. Descriptive statistics was used mainly to summarize the data. The entrepreneur characteristics are most of bachelor's degree complete of highest educational level, only few years of work experience and most of the business is owned by Bamar. Among firm size, small enterprise have the highest in term of percentage, the age of the enterprise is worked for many years and most of them are family businesses. The Multinomial logistic regression analysis was used to explore the effects of some key factors on the performance in this study. The finding revealed that majority of the respondents agreed that the characteristics of an entrepreneur such as educational level had no significant influence on the SMEs performance. The ethnicity of owners and manager factors found to have significant influence on the performance of SMEs. Firm characteristics such as firm size, internet access, access of rail, access of port, select the enterprise hires workers and business association member were statistically significant influence on the performance of SMEs. It suggests that entrepreneurs need to conduct regularly and intensively training and coaching on vision, goal setting, value addition, technology and new markets development.

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LIST OF ABBREVIATIONS

CI	Confident Interval
CSO	Central Statistical Organization
DICA	Directorate of Investment and Company Administration
DISI	Directorate of Industrial Supervision and Inspection
EU	European Union
GDP	Gross Domestic Product
MSME	Micro, Small, and Medium Enterprise
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
OR	Odd Ratio
SME	Small and Medium –Sized Enterprise
SSID	Small Scale Industry Department
UNDP	United Nations Development Programme

CHAPTER I
INTRODUCTION

A strong Small and Medium Enterprises (SMEs) sector contributes highly to the country's economy, contributing to the Gross Domestic Product (GDP) by reducing the level of unemployment, reduction in poverty levels and promotion of entrepreneurship activity. SMEs are also important for economic and social reasons, given the sector's role in employment. There are varying global definitions of SMEs depending on the level of the economy. Each country has its own definition of what constitutes a small and medium-sized enterprise (SME). Small and Medium-size Enterprises are businesses that have revenues, assets, or a number of employees below a certain threshold. SMEs play an important role in the economy, employing vast numbers of people and helping to shape innovation. Large firms considerably employ vast numbers of people and are generally entrepreneurial in nature, helping to shape innovation. In the United States, there is no distinct way to identify (SMEs). The European Union (EU) offers clearer definitions, characterizing a small-sized enterprise as a company with fewer than 50 employees and a medium-sized enterprise as one with less than 250 employees. In addition to small and mid-size companies, there are micro-companies, which employ up to 10 employees. Developing countries tend to have a larger share of small and medium-sized enterprises. SMEs are also responsible for driving innovation and competition in many economic sectors. Although small and medium firms create more new jobs than large firms, SMEs also suffer the majority of job destruction/ contraction.

Nowadays, small and medium enterprises are an essential part of the economic structure in developed countries and developing countries, and play an important role in bringing innovation, economic growth and prosperity. Unfortunately, SME access to capital to fund their growth and expansion is very limited and for most SMEs in developing countries represents a major obstacle. Many small businesses start out as an idea and mainly by one or two individuals who invest from their own resources and in some cases borrow from family and friends. But if they succeed, the time comes when

all emerging/developing SMEs are in need of new investments to expand their operations or bring new innovations. Another problem, a study of the development of SMEs is the way of measuring the development. However, some of the variables that researchers use much more are increase of employment, sales and revenues for a specific period of time, because the collection of those data and their measurement is easy and simple (Delmar et al., 2003). The issue of whether small businesses can be considered as beneficial to economic growth must be examined from several different perspectives. As the theory of scale of economies emphasizes, large-scale firms enjoy advantages derived from their economies of scale in production and also from having crossed the threshold of innovative activities, thereby predicting that the resultant increase in the share of large-scale firms will drive economic progress. Nevertheless, large firm play a particularly key role in high-income countries and sometimes even in low-income countries, making significant contributions to both GDP and employment (Dalberg, 2011). Thus, it is no doubt that SMEs play a very important role to the economy in particular and development in general.

In developed countries, concern on SMEs is very high. This is due to the fact that SMEs have been considered as the backbone of the economy. However, SMEs are vulnerable to a variety of internal as well as external barriers. As a consequence, governments' attention to SMEs is mostly in the form of creating a conducive environment, entrepreneurship development, access improvement to both domestic and international markets, providing financial facilities, competitiveness improvement and providing information and supporting networks. The importance of the SMEs faced many internal barriers including the lack of management experience, the lack of functional skills, the lack of employees' training and development as well as unfavorable attitude towards customers. Due to the many problems above, studies on SMEs are very diverse. Some studies suggest, for instance, the important of supply management as a strategic concept in improving SMEs' productivity.

1.1 Rationale of the Study

Myanmar is in the midst of economic and policy reform. Military governance and a controlled economy are transitioning into a democracy system and market-based economy through institutional and regulatory restructuring. The economy has traditionally depended on natural resources for revenue, and the abundant labor force is still mainly employed in agriculture. The process of structural transformation and

integration in global markets is increasing the intensity of industrial activity, as well as the number of jobs in manufacturing. Between 1990 and 2015, the industrial sector grew from 10 to 34 per cent of gross domestic product (GDP), while the agricultural sector fell from 60 to 27 percent of GDP (CSO, 2017). Private manufacturing activity has been identified as having a large potential for improving Myanmar's economic growth. There is, however, a lack of information about the performance and the conditions in the sector, preventing the design of efficient industrial policy. Only a handful of surveys of the private business sector have been done in Myanmar. A business survey of agricultural, manufacturing, and services establishments was conducted on a convenient sample in 2014 by the United Nations Economic and Social Commission for Asia and the Pacific and the Mekong Institute (Soans and Abe, 2015). In the same year, the CSO and United Nations Development Programme (UNDP) conducted the Myanmar Business Survey, which included around 15,000 business entities from manufacturing, trade, and services. The World Bank conducted its two enterprise surveys in 2014 and 2016 on a sample of around 600 registered small, medium, and large enterprises, mostly in manufacturing and services (World Bank, 2016).

The Myanmar Micro, Small, and Medium Enterprise (Myanmar-SMEs) Survey is the first nationally representative survey focusing exclusively on manufacturing enterprises in Myanmar and their employees. The status of the private manufacturing sector, the data was collected in 35 townships in all 14 regions and states of the country as well as the Nay Pyi Taw Union Council in June and July 2017. The sample comprises 2,496 enterprises and their 6,722 employees, which are statistically representative of more than 71,000 manufacturing firms in Myanmar. The resulting matched employer–employee dataset is unique in its ability to provide estimates of individual outcomes alongside company averages, and outcomes of informal alongside formal businesses, which none of the previous datasets allow. Moreover, the breadth of information is unprecedented, allowing for the analysis of several dimensions and dynamics of enterprise performance and the business environment in Myanmar. It touches upon several dimensions of the business environment: labor force, and access to services such as finance, which relate to the key aspects of firm performance, such as labor productivity, investment, and sales.

Enterprise performance depends on a multitude of factors such as location, type of activity, legal ownership, and firm size, which represent variations in market

characteristics and/or enterprise organization. To make appropriate decisions and measurements for these issues, it will state that knowing the factors associated with the business success of SMEs is a precursor to a problem. Therefore, the aim of this study was to assess the key factors affecting the performance of SMEs in Yangon region.

1.2 Objectives of the Study

The objectives of this study are

- To describe entrepreneur and firm characteristics of SMEs in Yangon Business Sector.
- To investigate the effects of some key factors on the performance of SMEs in Yangon Business Sector.

1.3 Method of Study

This study investigates how the entrepreneurial qualities affects the odds of achieving SMEs performance under loss of economic sectors. The descriptive statistics and multinomial logistic regression model were employed for the data analysis of this study. At first, descriptive analysis is used to describe entrepreneurial characteristics affecting the performance of SMEs. Second, the study used multinomial logistic regression to determine the factors affecting the SMEs performance. The dependent variable is the SMEs performance obtained from the respondents answer in which statement best characterizes the firm's overall performance in 2016 on a nominal scale: loses, break even or profit. The independent variables were educational level, years of experience, ethnicity of the owner, firm size, firm age, firm ownership, internet access, email address, paved road access to rail, access to port, new technology, employment status, marketing practices, business association, debt of the firm.

1.4 Scope and Limitations of the Study

The study is based on the secondary data which is the dataset from Myanmar Micro, Small and Medium Enterprise Survey conducted in 2017, Yangon Region in which the sample of 358 selected from the 14111 population. Micro firms comprise 36 percent of the sample and 34 percent of the manufacturing enterprise population in Yangon. This study helps to inform the society particularly the SMEs owners, managers, employees and business information on the factors that are affecting

performance in SMEs that leading to change their respective of performance enterprises.

1.5 Organization of the Study

The study has been organized in five chapters. Chapter one consists introduction, it has given a detailed rationale of the study, objectives of the study, method of study, scope and limitations of the study and organization of the study. Chapter two reveals literature review which are the number of theoretical and empirical works on Small and Medium Scale Enterprises which has received a great deal of attention in development kinds of literature are presented. Chapter three reveals the methodology background based on multinomial logistic regression. Chapter four, it presents the results and findings as observed during the research and the conclusion is presented in chapter five.

CHAPTER II
LITERATURE REVIEW

In the Literature review part of this study, the number of theoretical and empirical works on Small and Medium Enterprises which has received a great deal of attention in development kinds of literature are presented. Accordingly, several development programs and projects have been launched in many developing countries and emphasis is now shifting towards the development of Small and Medium Enterprises in order to increase the productivity, employment opportunities, purchasing power and living standard of their society so as to achieve economic growth and development. In addition to this, there was some conceptual framework in this study.

2.1 Definition of SMEs in Myanmar

According to the Law on the Development of Small and Medium Businesses (Pyidaungsu Hluttaw Law No. 23/2015), small and medium enterprises (SMEs) are defined based on their number of employees, type of activity, capital invested, or level of turnover. The classification is illustrated in Table 2.1. Compared to the 1990 version of the law, the maximum number of employees has been increased for labour-intensive activities, as have the limit values for capital and turnover. Unlike the Myanmar SME Development Law, international definitions of SMEs also specify the characteristics of micro-sized enterprises. For instance, the World Bank's SME Department defines micro enterprises as those with 1–9 employees, small-scale enterprises as those with 10–49 employees, medium sized enterprises as those with 50–299 employees, and large enterprises as those with more than 300 employees.2 A common feature of various SME definitions is a recognition that number of employees is the simplest indicator of whether a business is an SME (Bowman, 2017). In line with this recognition, we abstain from including the level of capital and turnover in the definition of enterprise size categories, and base them solely on the number of full-time and part-time workers, following the cut-off points proposed by the World Bank.

According to the SME law, all SMEs with total private capital investment must register; this, in turn, brings benefits such as possibilities for submitting grievances, access to business knowledge, training courses, applying for loans, etc. (OECD, 2016). The issue of enterprise registration in Myanmar is not straightforward due to the unclear distribution of responsibilities among governmental agencies.

Table (2.1) Legal Definitions of SMEs According to the 2015 SME Development Law

Classification	Number of Employees	Capital (million. kyats)	Turnover (million. kyats)
SMALL			
Manufacturing	Up to 50	Up to 500	
Labor-intensive manufacturing	Up to 50	Up to 500	
Wholesale	Up to 50		Up to 100
Retail	Up to 50		Up to 50
Service	Up to 50		Up to 100
Other	Up to 50		Up to 50
MEDIUM			
Manufacturing	51-300	500-1000	
Labor-intensive manufacturing	301-600	500-1000	
Wholesale	31-60		100-300
Retail	31-60		50-100
Service	31-100		100-200
Other	31-60		50-100

Source: Myanmar SMEs Survey 2017

Companies to be classified as SMEs may be registered with any of the following authorities:

- The Directorate of Investment and Company Administration (DICA),
- The Small Scale Industrial Department (SSID), or
- The Directorate of Industrial Supervision and Inspection (DISI).

In practice, municipal offices are the dominant authorities conducting the registration of industrial enterprises (CSO and UNDP, 2016). According to DISI (2016), the process of registration starts by filing an application to the respective state or regional office, for example for an Electrical Inspection Sector permit, Boiler certificate, Saw Mill license, Good Manufacturing Practice certificate, etc. After the site is inspected, the state

or regional officer-in-charge, with the approval of the Director General, grants or refuses registration. The enterprises approved for registration pay the fee and obtain the registration certificate. The choice of registration option depends on the type of activity. The enterprises operating in mining and quarrying, manufacturing, electricity, gas, steam, and air conditioning supply are required to register with the DISI, while non-industrial enterprises must apply for their licences to city and township development committees, which only cover a limited number of sectors (OECD, 2016). An enterprise can, in principle, register with multiple governmental agencies, and duplicate registrations sometimes cannot be avoided. Duplicate registrations happen for specific purposes. For example, enterprises need to register with the DISI for the main benefit of being eligible to obtain an SME loan, implying that a company that has already registered, for example with the DICA, would still need to re-register to be able to apply for a loan. For the purpose of this report, I define a formal firm as a firm that at minimum possesses a municipal or any other relevant licence or registration document.

The classification of firm legal ownership categories follows several legal documents. The 1990 Myanmar Private Industrial Enterprise Law defines private industrial enterprises as any individual, partnership, or company that produces finished goods from raw materials, using any form of power in any building. This definition does not include cottage industries or joint ventures with the government. Further, the 1991 Promotion of Cottage Industries Law defines cottage industry as small-scale production, repair, maintenance, or service activities performed by family members or jointly between family members, with up to nine workers. The number of workers is not limited in the case of production of handicrafts. Finally, the 1914 Myanmar Companies Act establishes the legal foundation for incorporated business in Myanmar and recognizes the following kinds of companies: sole proprietorships, joint ventures between local and foreign business partners, joint ventures with relevant government departments and organizations, and foreign companies. I focus on the following types of formal non-state enterprises: family businesses, private firms, partnerships, cooperatives, private limited companies, and joint venture companies. Family businesses are recognized by law as cottage industries. Private enterprises are defined in accordance with the Private Industrial Enterprise Law and other types of enterprises in accordance with the Myanmar Companies Act.

2.2 Myanmar SMEs Survey

Myanmar's transition to a market-based economy is accompanied by rapid development of the private manufacturing sector, which has large potential for improving economic growth. The overall success of the sector, however, should not be taken for granted. Future advances will greatly depend on the policy and business environment in which manufacturing activities take place. It is, therefore, important to better understand the business environment and help inform policies conducive to sustainable economic growth. The Central Statistical Organization (CSO) of the Ministry of Planning and Finance of Myanmar, the United Nations University World Institute for Development Economics Research (UNU-WIDER), and the University of Copenhagen, supported financially by Denmark, have initiated the project 'Towards Inclusive Development in Myanmar'. The project aims to strengthen evidence-based policy-making and analysis through a rigorous 'Myanmar Micro, Small, and Medium Enterprise Survey' of private manufacturing enterprises. The survey is the first nationally representative survey focusing exclusively on manufacturing enterprises and their employees. The data were collected in 35 townships in all regions and states of the country in 2017. The sample comprises 2,496 enterprises and 6,722 employees and is statistically representative of more than 71,000 manufacturing firms in Myanmar. The resulting matched employer–employee dataset is unique in its ability to provide estimates of individual-level outcomes, alongside company averages and results for both informal and formal businesses. The breadth of information is unprecedented, and it will allow analysts to study enterprise performance and the business environment in Myanmar in depth, including dimensions such as firm performance, labour force, technology and management characteristics, innovation, investment, sales, access to finance, and perceptions about the constraints and potentials of the business environment.

2.3 Empirical Literature Reviews

Woldie (2008) analyzed Factors influencing small and medium enterprises (SMEs): an exploratory study of owner/manager and firm characteristics. There is an extensive amount of literary research devoted to the influence of the characteristics of the owner/managers and the firm on the growth of Small and Medium Enterprises. This study fills this gap; it incorporates an analysis of influence of five owner /managers and four firm characteristics on the growth of the firm. It result reveals that SME growth is

largely influenced by firm characteristics such as age, sector, legal status and number of employees. Owner/manager characteristics proved seem to influence growth include age, education, previous experience, and three motivation variables, namely finance, employment creation and self-fulfillment.

Harvie (2010) explored firm characteristic determinants of SME participation in production networks. The results suggest that productivity, foreign ownership, financial characteristics, innovation efforts, and managerial entrepreneurial attitudes are the important firm characteristics that determine SME participation in production networks. The study extends the analysis to identify the determinants that allow SMEs to move from low to high quality or value adding participation in production networks. The results suggest that size, productivity, foreign ownership, and, to some extent, innovation efforts and managerial attitudes, are the important firm characteristics needed by SMEs to upgrade their positions in production networks. The finding suggests that SMEs really exploit competitiveness from economies of scale only when they are able to engage in production networks.

Chittithaworn et al., (2011) analyzed that factors affecting business success of small & medium enterprises (SMEs) in Thailand. The factors were SMEs characteristic, management and know-how, products and services, Customer and Market, the way of doing business and cooperation, resources and finance, Strategy, and external environment. The regression analysis result shown that the most significant factors affecting business success of SMEs in Thailand were SMEs characteristics, customer and market, the way of doing business, resources and finance, and external environment.

Islam and Mukit (2013) explained factors determining the success of SMEs in Bangladesh. This study was the factors that are the instrumental to the success of the SMEs. The different types of SME entrepreneurs involved in small manufacturing, wholesaling, retailing, and the like. The factors were reduced to eight factors by using a multivariate statistical technique like Factor Analysis. Results show that the success of the SMEs is determined by the entrepreneur's authority on business and the market strategy followed, nature and type of business and financial supports, management know-how, use of modern technology, market accessibility and the networking, government policy and support, favorable external environment, and the owner's personal qualities.

Amaradiwakara and Gunatilake (2016) examined that factors affecting growth of small and medium enterprises in Sri Lanka. The correlation analysis and the Chi-square test were used to determine the possible influence of the factors on the growth of SMEs. The study revealed that the growth of SMEs is constrained by financial inadequacy, the lack of access to new technology, and some regulations imposed by the government. Moreover, it was revealed that the level of education of the owner of the enterprise has a direct impact on the growth of SMEs.

Heslina et al., (2016) analyzed that factors affecting the business performance of the micro, small and medium enterprises in creative economic sector in Makassar, Indonesia. This study was determining the effects of the venture capital on growth strategies, the characteristics of entrepreneurs on business growth strategy, business growth strategy on business performance, and the competence of entrepreneurship on the performance of the business. The results showed that there was significant effect of the venture capital business growth strategy and business performance. Variables were significantly affecting the entrepreneurial characteristics of business growth strategy, entrepreneurial competence and business performance. Entrepreneurial characteristics significantly influence business performance. Through business growth strategy, whilst venture capital has a significant influence on business performance,

Thinji (2017) analyzed that the study sought to examine the influence of commitment on performance of SMEs, to determine the influence of innovation on performance of SMEs, to find out the influence of independence on performance of SMEs, to establish the influence of experience on performance of SMEs. The findings showed entrepreneurial factors commitment, innovation, independence and experience had significant and positively influence on the performance of SMEs. Commitment and innovation significantly influenced performance of SMEs, while independence had experience had a major influence SMEs performances.

Neher and Miles (2020) analyzed SMEs and the relationship between firm size and the enactment of espoused managerial values. This paper explores the relationship between the size of small and medium-sized enterprises (SMEs) and the enactment of espoused values. Results suggest a positive relationship between larger firm size and a higher degree of espoused values-enactment.

2.4 Conceptual Framework of the Study

This study sought to investigate the factors influencing the success of performance small and medium enterprises (SMEs). The dependent variable is the SMEs performance. The independent variables are entrepreneurial characteristics and firm characteristics such as educational level, years of experience, ethnicity of the owner and firm size, firm age, firm ownership, internet access, email address, paved road access to rail, access to port , new technology, employment status, marketing practices, business association, debt of the firm. In this analysis, the firm in which statement best characterize the firm's overall performance in 2016; the success of the business is based on profit such as loses, break even, profits as expected.

Conceptual Framework of SMEs Performance

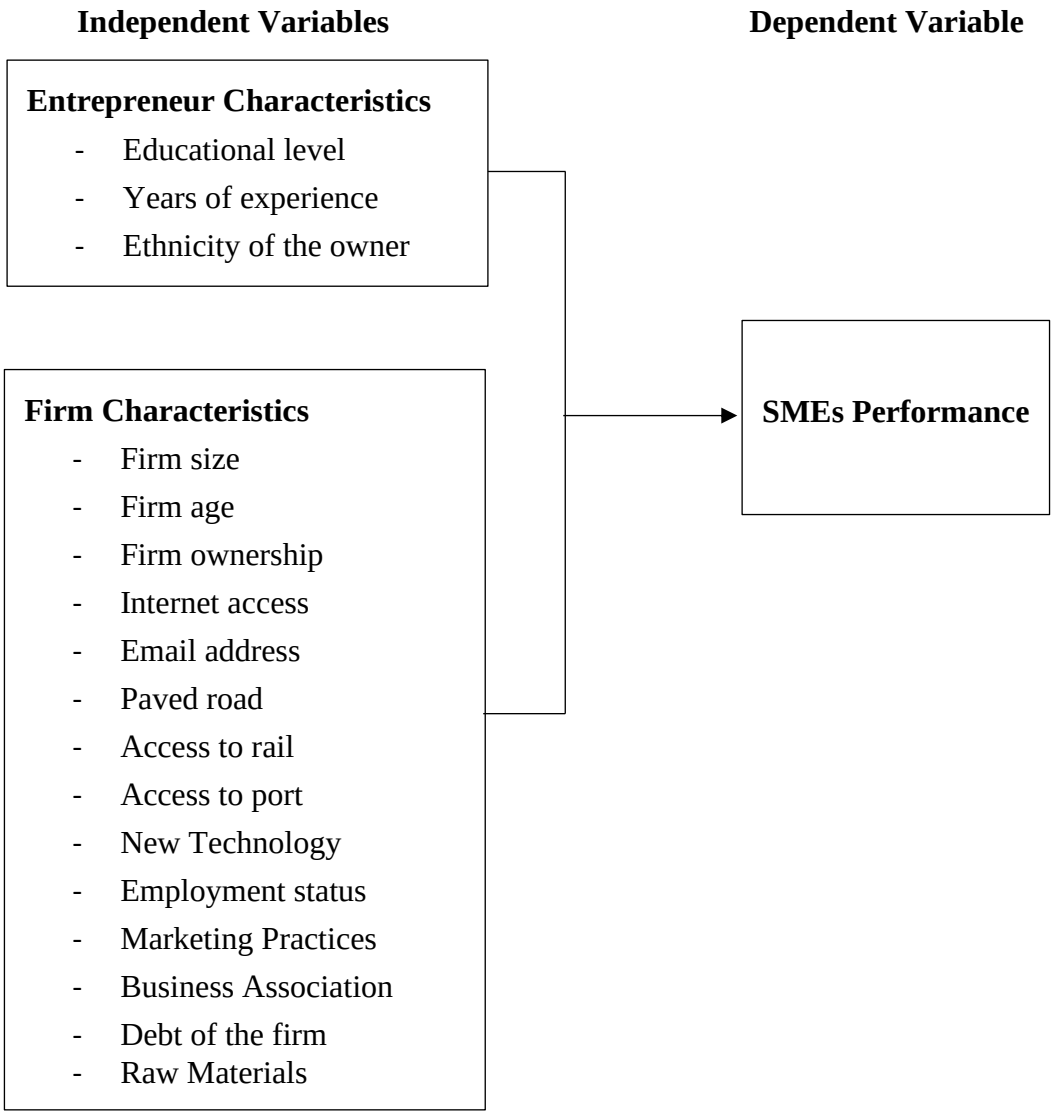

Figure (2.1) Conceptual Framework of the Study

2.5 Definition of Variables Used in this Study

Educational Level

Educational attainment refers to the highest level of education that a person has successfully completed. Educational level of entrepreneur is related to knowledge, skill, problem-solving ability, discipline, and self-confidence.

Year of Experience

The most common way to calculate work experience of entrepreneur is by assessing the number of hours, weeks, months or years his or her have spent in a role or the duration of their comprehensive work in the industry.

Ethnicity of the Owner

Ethnic group refers to a group of persons whose members identify with each other through such factors as common heritage, culture, ancestry, language, dialect, history, identify and geographic origin. Myanmar comprises eight major national ethnic races with same 135 ethnic groups. The major national races are Kachin, Kayah, Kayin, Chin, Mon, Bamar, Rakhine and Shan.

Firm Size

There are a number of established ways to define firm size, such as in terms of value added, sales, or the number of employees. In this study, size is defined as the total number of employees per firm.

Firm Age

Firm age measures as the time between the initial creation of a firm and the present time (in year). Age is the length of time during which a being or thing has existed.

Firm Ownership

An ownership structure concerns the internal organization of a business entity and the rights and duties of the individual holding the equitable or legal interest in that business. For instance, a shareholder who is also the owner of a corporation has certain right. There are only four primary types that family business, private firm (sole proprietorship) partnership, cooperative and limited company in this study.

Internet Access

Firms have higher growth and productivity where Internet access is greater. Small firms benefit more from Internet than large firms do. Using the Internet in the workplace makes your business more competitive and enhances the movement of assignments.

Email Address

A professional email address is the email address used for business communications, which is based on their custom domain.

Paved Road

If a road or an area of ground has been paved, it has been covered with flat blocks of stone or concrete, it is suitable for walking or driving on. Pavements built today can be engineered to meet a variety of needs-greater durability, enhanced skid resistance to improve safety; and, a smoother ride to satisfy the traveling public. Paved roads allow for quicker travel and a smooth ride.

Assess to rail

Rail transport is a cost-effective option for firms. A railway stretches its hands in conducting activities like business, sightseeing, and pilgrimage along with transportation of goods. It is easier for long-distance travel. It strengthens the development of the industry and agriculture.

Assess to port

Transport and logistics have a management base that allows specialized the international physical distribution operations, from the use of premises known as ports. The Ports are areas that are attached to a sea, ocean or river by connecting waterway and are essentially considered as entities.

New Technology

Introducing a new technology should create a long-term working relationship with the industry providing the technology. It is important therefore that they are able to communicate effectively, work well with their team and create a relationship that is mutually beneficial for them both.

Employment Status

Employment status is a general term referring to the relationship between an employee and their current or former employer. To make better hiring decisions, there are key factors to consider when making a hiring decision such as experience, long term potential and attitude, skills, abilities, knowledge, versatility, and cultural fit.

Marketing Practices: Advertising

Advertising is one aspect of marketing. While marketing is the overall approach to speaking to customers about their brand, advertising is usually a paid form of messaging designed to lead to sales. Advertising can be short-term for a special promotion or ongoing, but usually requires a financial investment.

Business Association

The business association meaning refers to membership organizations that are engaged in and supportive of the promotion of the business interests of their members. Benefits of joining a business association were visibility, knowledge, networking, credibility, and advocacy.

Debt

Debt means the amount of money which needs to be repaid back and financing means providing funds to be used in business activities. A firm takes up a loan to either finance a working capital or an acquisition. If a company needs a big loan then debt

financing is used, where the owner of the company attaches some of the firm's asset and based on the valuation of those assets, loan is given.

Raw Materials

Raw materials are the input goods or inventory that a company needs to manufacture its products. Examples of raw materials include steel, oil, corn, grain, gasoline, lumber, forest resources, plastic, natural gas, coal, and minerals. Raw materials inventory and provision has significant relation to the production process. Raw materials inventory represents items purchased or produced by the company to use in manufacturing a product. This is of course being the basic needs of the company for the process of production.

CHAPTER III
METHODOLOGY

In recent years, specialized statistical methods for analysed categorical data have increased. Regression analysis is one of these statistical tools that utilize the relationship between two or more variables. It is the name of a set of techniques that attempts to predict one variable called response variable from another variable, or set of variables called explanatory variables or predictor variables. This tool can serve three major purposes: prediction, explanation, control, as the regression equation can be used to predict an individual's score on the outcome variable of interest, and can explain why certain events occurred, based on their relationship, and to control for other variables.

The regression models can be divided into two groups, the first related to linear relationship models, and the second related to non-linear relationship models. The linear models, considered up to this point, are satisfactory for most regression applications. Nonlinear model used when the linear model is not suitable anyhow. The model is considered a linear if the parameters can present by linear relationship, and it is not necessary include first order model but also it can be more complex models. Many of statisticians believe that the logistic regression model is one of the important models can be applied to analyse a categorical data.

3.1 Multinomial Logistic Regression Model

The multinomial logistic regression is a simple extension of binary logistic regression. Multinomial logistic regression analysis requires that the response variable be dichotomous, nominal and ordinal level. The explanatory variables can be either dichotomous (i.e., binary) or continuous (i.e., interval or ratio is scale). The multinomial logistic regression can be used to predict a response variable on the basis of continuous and/or categorical explanatory variables to determine the percent of variance in the response variable explained by the explanatory variables; to rank the relative importance of independents to assess interaction effects; and to understand the impact of covariate control variables. The multinomial logistic regression compares multiple

groups through a combination of binary logistic regressions. To construct the logits in the multinomial case, one of the categories must be considered the base level and all the logits are constructed relative to it. Any category can be taken as the base level, because there is no ordering. The minimum number of cased per explanatory variable is 10, using a guideline provided by Hosmer and Lemeshow, authors of Applied Logistic Regression, one of the main sources for Logistic Regression. Multinomial logistic regression allows the simultaneous comparison of more than one contrast, that is, the log odds of three or more contrasts are estimated simultaneously, Garson (2009). Multinomial logistic regression is also known as the polytomous or multiclass logistic regression method.

In multinomial logistic regression model, the response variable does not need to be normally distributed but it does assume that distribution is within the range of the exponential family of distributions. The assumptions are

- The error terms are assumed to be independent; violations of this assumption can have serious effects.
- There is no multicollinearity. The problem of multicollinearity will occur in logistic regression, as it does in OLS regression, as the explanatory variables increase in correlation with each other, the standard errors of the logit (effect) parameters will become inflated. Multicollinearity does not change the estimates of the coefficients, only their reliability.
- There are no outliers. Outliers can affect results significantly, outlets standard residual should be analyzed and removing or modeling them separately.

Sampling adequacy: goodness-of-fit measures like chi-square model assume that for cells formed by the categorical independents, all cell frequencies are more than or equal 1 and no more than 20% of cells are less than 5, Garson (2009).

Let us assume that we have k-explanatory variables (they may be continuous and/or categorical) and outcome variable Y with J nominal categories. Then, the multinomial logistic regression model may be presented as:

$$\text{Logit}\,(Yj) = \ln\left[\frac{P(Y=j\,|\,X)}{P(Y=J/X)}\right] = \beta_{j0}+\beta_{j1}X_1+\beta_{j2}X_2+\ldots+\beta_{jK}X_K$$

where j= 1, 2, …,J-1.

Each of them is a linear function that models the logarithm of probability as having response j to baseline category J (Agresti, 2002). All logits are defined relative to such a predetermined baseline category. It is important to point out that, because they

are unordered, any of the J categories can be taken as the reference outcome (El-Habil, 2012). Logit coefficient (β_{jk}) provides information on how great a change in the logit is made by a one unit increase of the value of k-th predictor (while the values of the other variables remain unchanged). The relative risk ratio (RRR) is used the most commonly for the interpretation of the model.

$$\frac{P(Y=j/X)}{P(Y=J/X)} = \exp\left(\beta_{j0}+\sum_{k=1}^{K}\beta_{jk}X_k\right)$$

RRR is an exponential function of regression coefficients. RRR greater than 1 means that the probability of occurrence of j-th category is greater than the probability of obtaining reference category J. Due to the fact that the sum of all probabilities P(Y=j/X), where j=1, 2, …,J, equal one, it is easy to establish that:

$$P(Y=j/X) = \frac{\exp(\beta_{j0}+\beta_{j1}X_1+\beta_{j2}X_2+\cdots+\beta_{jK}X_K)}{1+\sum_{j=1}^{J-1}\exp(\beta_{j0}+\beta_{j1}X_1+\beta_{j2}X_2+\cdots+\beta_{jK}X_K)}$$

$$P(Y=J/X) = \frac{1}{1+\sum_{j=1}^{J-1}\exp(\beta_{j0}+\beta_{j1}X_1+\beta_{j2}X_2+\cdots+\beta_{jK}X_K)}$$

Parameters β_{jk} Ij=1,2,…, J; k=1,2,…,K) are estimated using the maximum likelihood method.

3.2 Some Measures of Fitting the Model

The Goodness-of-fit of Multinomial Logistic Regression Model

After selecting a preliminary model, we obtain further insight by switching to a microscopic mode of analysis, such diagnostic analyses may suggest a reason for the lack of fit, such as nonlinearity in the effect of an explanatory variable. Two tests can be used to chick the goodness-of-fit, Pearson chi-square test for goodness-of-fit and likelihood ratio test. Both are chi-square methods, the Pearson statistic is based on traditional chi-square, and the likelihood ratio test statistic is based on likelihood ratio chi-square. The likelihood ratio test is preferred over the Pearson. Either test is preferred over classification tables when assessing model fit. Both tests usually yield the same substantive results, Garson (2009).

Pearson Chi-square Test as Goodness-of-fit

Karl Pearson developed the goodness-of-fit to determine whether observed distributions of frequency data fitted a theoretical distribution. By estimating the cell frequencies one would expect to observe under some theoretical distribution, one could

compare the actual frequencies and calculate the difference. The smaller the difference is the better the fit. Using the test statistic and degree of freedom, we can estimate the significance value. The assumptions underlie the test is the data must be treated as categorical. It must be mutually exclusive, none of expected values may be less than 1, and no more than 20% of expected values may be less than 5, each observation is independent of each other observation, Salkind (2007).

Wald Test

Wald test is used to test the statistical significance of each coefficients (i.e. β′s) in the logit regression model. Wald statistic follows a chi-square distribution. However, several authors have identified problems with the use of the Wald statistic. Menard (1995) has warned that for large coefficients, standard error is inflated, lowering the Wald statistic (chi-square) value. Agresti (1996) has stated that the likelihood-ratio test is more reliable for small sample sizes than the Wald test.

The test statistic is

$$W = \left[\frac{\hat{\beta}_i}{S.E\ (\hat{\beta}_i)}\right]^2$$

The Likelihood Ratio Test

In order to confirm the appropriateness of the whole model created with the use of the Multinomial Logistic Regression method, the likelihood ratio chi-square test must be performed. Test statistics is based on the difference of logarithms of the likelihood function of the reduced model with intercept only (L_0) and the fitted final model (L_1), in which p = K.(J-1) parameters are considered:

$$LR = -2(\ln L_0 - \ln L_1) \sim \chi_p^2$$

3.3 Strength of Multinomial Logistic Regression Relationship

Once the relationship is significant, the next step is to establish the strength of multinomial logistic regression relationship, multinomial logistic regression does compute correlation measure to estimate the strength of relationship (pseudo R-square measures, such as Nagelkerke's R-Square). Using the Cox and Snell R-Square and the Nagelkerke R-Square value which provide an indication of the amount of variation in the dependent variable.

Pseudo R-Square

There are three pseudo R-square values can be calculated for logistic regression. Pseudo R-square does not have an equivalent to R^2 in OLS regression (the coefficient of determination). R^2 summarizes the proportion of variance in the response variable associated with explanatory variables, but pseudo R-square does not means what R-Square means in OLS regression but we can use it as indicator for different areas of application. The model with the largest pseudo R-square statistic is best according to the measures; however, classification coefficients as overall affect size measures are preferred over pseudo R-square measures as they have some severe limitations for this purpose, Garson (2009).

Cox and Snell R-Square

Cox and Snell's R-Square as a transformation of the statistic of $-2\ln\left[\frac{L(M_{Intercept})}{L(M_{Full})}\right]$ is used to determine the convergence of a logistic regression. The ratio of the likelihoods reflects the improvement of the full over the intercept model (the smaller the ratio, the grater the improvement). The Cox and Snell R-Square is

$$R^2 = 1- \left[\frac{L(M_{Intercept})}{L(M_{Full})}\right]^{2/N}$$

L(M) is the conditional probability of the dependent variable given the independent variables. If there are N observations in the dataset, then L (M) is the proof N such probabilities. Thus, taking the nt^h root of the product L (M) provides an estimate of the likelihood of each Y value. Cox and Snell's pseudo R-Square has a maximum value that is not 1. If the full model predicts the outcome perfectly and has a likelihood of, Cox and Snell's R-Square will be $(1-L(M_{Intercept})^{2/N})$, which is less than one.

Nagelkerke R-Square

It adjusts Cox and Snell's so that the range of possible values extends to 1. To achieve this, the Cox and Snell R-Square is divided by its maximum possible value, $1-L(M_{intercept})^{2/N}$.

$$R^2 = \frac{\left[\frac{L(M_{Intercept})}{L(M_{Full})}\right]^{2/N}}{1-L\left(M_{Intercept}\right)^{2/N}}$$

Then, if the full model perfectly predicts the outcome and has a likelihood of 1, Nagekerke R-Square will equal one.

CHAPTER IV
RESULTS AND FINDINGS

Data from Myanmar Micro, Small and Medium Enterprise (SMEs) Survey 2017 were used to examine the determinants of business characteristics and entrepreneur Characteristics on SMEs of Yangon business sector in Myanmar. According to this survey, interviews were successfully completed with 358 enterprises that were analyzed by using descriptive analysis and multinomial logistic regression analysis.

4.1 Descriptive Analysis

The descriptive analysis of business and Entrepreneur Characteristic of the selected sample in Yangon Economic Sector are presented in this section. There are the related of entrepreneur characteristics and firm characteristics. It is calculated according to the number of respondents in their enterprises.

4.1.1 Education Level of Entrepreneur

The number of respondents for the highest education level of owners, managers and other respondents is shown in Table (4.1) and presented in Figure (4.1).

Table (4.1) The Highest Education Level of Entrepreneur

Education Level	Number of Respondents	Percent
No education	1	0.3
Primary school complete	25	7.0
Middle school complete	58	16.2
High school complete	67	18.7
Bachelor's degree	197	55.0
Master's degree	7	2.0
Other specify (involved vocational training)	3	0.9
Total	358	100.0

Source: Myanmar SMEs Survey 2017

According to the Table (4.1), it shows that a total of 358 respondents, the highest educational level were 0.3% of respondents whose have no education, 7.0%, of primary school completed, 16.2% of middle school completed, 18.7% of high school completed, 55.0 of bachelor's degree completed, 2.0% of master degree completed and 0.9% of other specify respectively. It has been observed in this study, bachelor's degree complete was highest educational level and secondary highest educational level of high school complete with Figure (4.1).

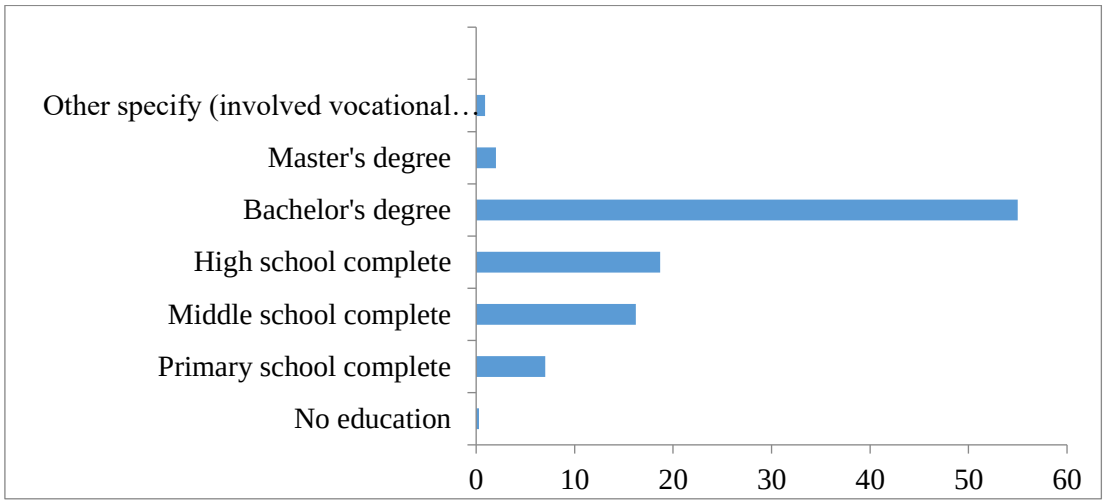

Figure (4.1) The Educational Level of Entrepreneur

4.1.2 Years of Experience of Entrepreneur

The total number of respondents' years of experience as owner, manager, and other respondents is shown in Table (4.2).

Table (4.2) The Frequency Distribution of Years of Experience

Years of Experience	Number of Respondents	Percent
5 years and below	148	41.3
6 – 10 years	99	27.7
11 – 15 years	46	12.8
16 years and above	65	18.2
Total	358	100.0

Source: Myanmar SMEs Survey 2017

With regard to years of experience, 41.3% were the highest work experience of the respondents who had less than five years, and 27.7% were the second highest work

experience of 6-10 years. As the work experience increases, the working life is decreasing.

4.1.3 Ethnicity of the Entrepreneur

The number of the ethnicity owner, manager and other specify respondents are shown in Table (4.3).

Table (4.3) The Frequency Distribution of Ethnicity of the Entrepreneur

Ethnicity of the Owner/ Manager	Number of Respondents	Percent
Bamar	259	72.3
Chin	3	0.8
Kachin	1	0.3
Kayin	8	2.2
Mon	4	1.1
Rakhine	6	1.7
Shan	7	2.0
Chinese	32	8.9
Pantay	2	0.6
Indian	24	6.7
Gurkha	3	0.8
Other domestic	9	2.5
Total	358	100.0

Source: Myanmar SMEs Survey 2017

According the ethnicity of the owner in Table (4.3), the most of the enterprises are 72.3% owned by Bamar, the second largest of owners are Chinese with 8.9%, and the third largest owner of enterprises are Indian with 6.7%. The remaining ethnic groups are also owned only a few percent with Figure (4.2).

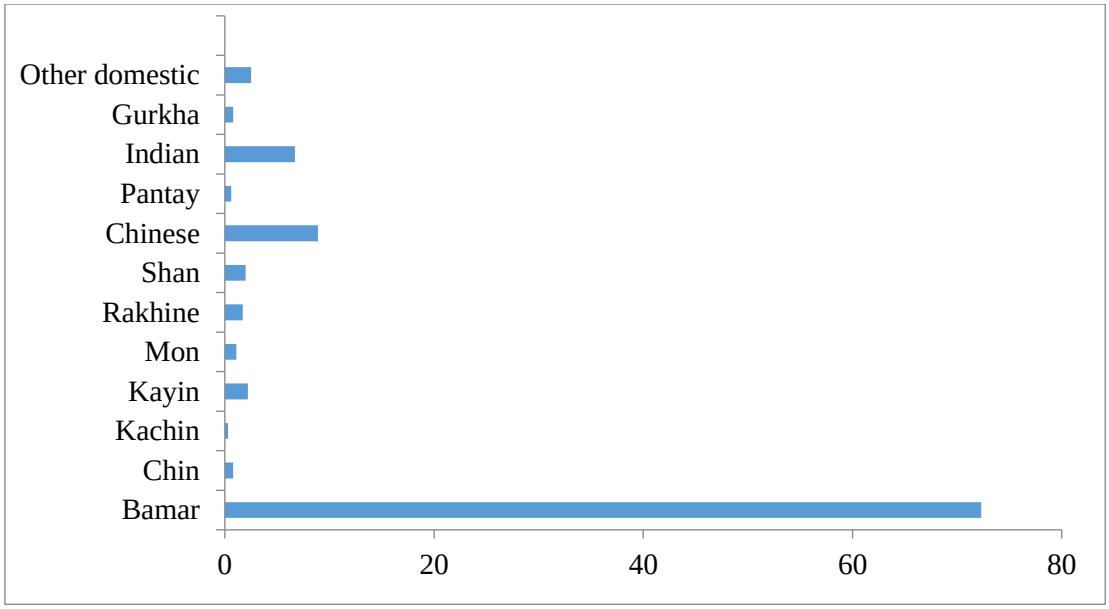

Figure (4.2) The Ethnicity of the Entrepreneur

4.1.4 Firm Size

The number of respondents of firm size is shown in Table (4.4) and presented in Figure (4.3).

Table (4.4) The Frequency Distribution of Firm Size

Firm Size	Number of Respondents	Percent
Micro	127	35.5
Small	139	38.8
Medium	81	26.6
Large	11	3.1
Total	358	100.0

Source: Myanmar SMEs Survey 2017

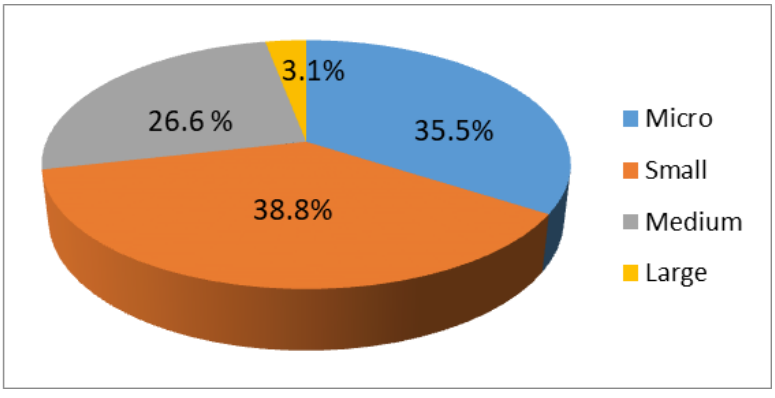

Figure (4.3) Percent of Firm Size in SMEs in Yangon Region

According to the Table (4.4) it shows that from the sampled 358 enterprises, there were 35.5% of micro enterprises, 38.8% of small enterprises, 26.6% of medium enterprises and 3.9% of large enterprise respectively. In terms of sectors, SMEs are concentrated mainly in small enterprise are more than others with Figure (4.3).

4.1.5 Firm Age

Firm Age showed the firms established from begin to end of survey conducted 2017. The frequency distribution of firm age is shown in Table (4.5).

Table (4.5) The Frequency Distribution of Firm Age

Firm Age	Number of Respondents	Percent
5 years and below	93	26.0
6 – 10 years	86	24.0
11 – 15 years	63	17.6
16 years and above	116	32.4
Total	358	100.0

Source: Myanmar SMEs Survey 2017

From the data presented above in Table (4.5), it sees that 26% of enterprises are less than 5 years old, 24% of those between 6 to 10 years, 17.6% of those between 11 to 15 years, and 32.4% of enterprises are 16 years and above, respectively.

4.1.6 Firm Ownership (or) Legal Status

The frequency distribution of firm ownership and legal status is shown in Table (4.6) and presented in Figure (4.4).

Table (4.6) The Frequency Distribution of Firm Ownership

Firm Ownership	Number of Respondents	Percent
Family business	164	45.8
Private firm (sole proprietorship)	164	45.8
Partnership	11	3.1
Cooperative	2	0.6
Limited company	14	3.9
Others	3	0.8
Total	358	100.0

Source: Myanmar SMEs Survey 2017

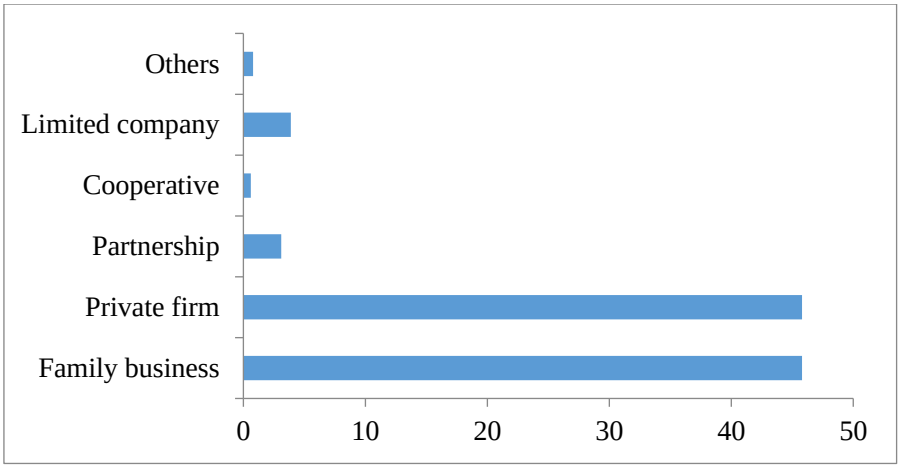

Figure (4.4) Percent of Firm Ownership (or) Legal Status

Table (4.6) shows that the form of family business and private firm (sole proprietorship) were the most enterprise at 45.8% of each. Limited company and partnerships also accounted for 3.9% and 3.1% respectively. The forms of ownership (or) legal status are frequencies and percentage with Figure (4.4).

4.1.7 Enterprise IT Facilities

The frequency distribution of enterprise facilities is shown in Table (4.7) and presented in Figure (4.5).

Table (4.7) The Frequency Distribution of Enterprise Facilities

Enterprise IT Facilities	Number of Respondents	Percent
Internet access		
Yes	76	21.2
No	282	78.8
Email address		
Yes	45	12.6
No	313	87.4
Website		
Yes	11	3.1
No	347	96.9
Total	358	100.0

Source: Myanmar SMEs Survey 2017

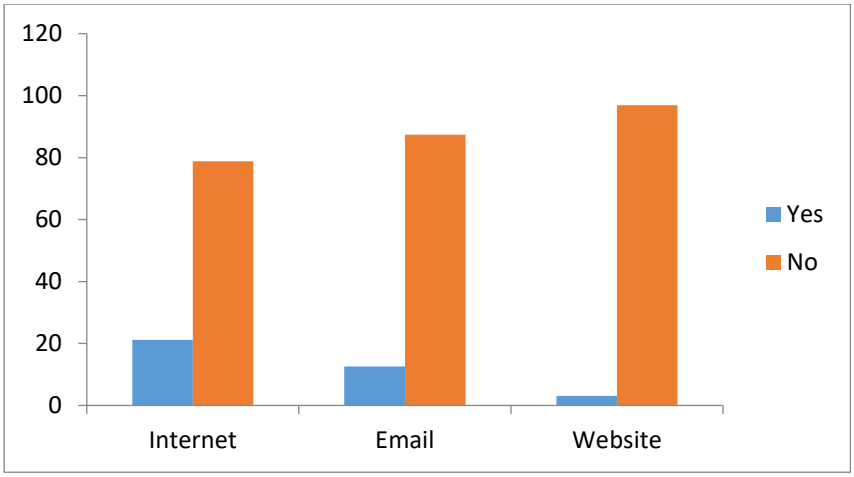

Figure (4.5) Percent of Enterprise Facilities in SMEs in Yangon Region

Table (4.7) shows that the 21.2 % of firms had the internet, 12.6 % of firms had received the official email address and only 3.1% of used official website. It has been observed that the number of firm internet usage is very few with Figure (4.5).

4.1.8 Located Main Road, Access to Rail and Access to Port

The frequency distribution of enterprise location is main road, access to rail and access to port in the following Table (4.8).

Table (4.8) The Frequency Distribution of Located Main Road, Access to Rail and Access to Port

Enterprise Location	Number of Respondents	Percent
Main road		
Yes	329	91.9
No	29	8.1
Access to rail		
Yes	148	41.3
No	21o	58.7
Access to port		
Yes	29	8.1
No	329	91.9
Total	358	100.0

Source: Myanmar SMEs Survey 2017

Table (4.8) shows that the most business are located on well-connected roads, about 92% of the total. Transportation facilities are 41.3% of access to rail and 8.1% of access to port in the enterprise of Yangon region.

4.1.9 Employment Status

Employment status of SMEs selected the most important way in which the enterprise hires workers in the following Table (4.9).

Table (4.9) The Frequency Distribution of Selected the Enterprise Hires Worker

Employment Status	Number of Respondents	Percent
Newspaper, advertisement	60	16.8
Through labour exchange	34	9.5
Recommended by friends, relatives, other workers	201	56.1
Allocated by local authorities	2	0.6
Personal contacts	53	14.8
Other	8	2.2
Total	358	100.0

Source: Myanmar SMEs Survey 2017

Table (4.9) shows that there were 16.8% of newspaper (or) advertisement, 9.5% of through labour exchange, 56.1% of recommended by friends, and relatives, 0.6% of allocated by local authorities, 14.8% of personal contacts and 2.2% of other selected the enterprise hires worker, respectively. Most of the employees are related to friends and relatives. The second most common is hiring employees with advertisements, and the third place is personal communication.

4.1.10 Marketing Practices

Marketing practices have many problem that customers asked whether there are products that they would like their business to start producing, to find out why stopped buying from their business, ever have attracted with a "special offer", a supplier about which products are selling well in this business' industry, advertising in any from and so on. Some of marketing practices are showed in the following Table (4.10).

Table (4.10) The Frequency Distribution of Marketing Practices of Customers and Supplier

Marketing Practices	Number of Respondents	Percent
Ever have attracted customers with a "special offer"		
Yes	28	7.8
No	330	92.2
Ever have asked a supplier about which products are selling well in this business		
Yes	51	14.2
No	307	85.8
Advertising in any form		
Yes	57	15.9
No	301	84.1
Total	358	100.0

Source: Myanmar SMEs Survey 2017

Table (4.10) shows that there were only 7.8% of ever have attracted customers with a "special offer", 14.2% of ever have asked a supplier about which products are selling well in this business, and 15.9% of advertise in any form.

4.1.11 Firm Member of One or More Business Associations

The following frequency distribution Table (4.11) shows the membership status of business associations.

Table (4.11) The Frequency Distribution of Firm Membership Status

Firm Member	Number of Respondents	Percent
Yes	39	10.9
No	319	89.1
Total	358	100.0

Source: Myanmar SMEs Survey 2017

In this study, the survey of SMEs in Yangon sector found that only 10.9% of members joined the business associations.

4.1.12 The Debt of the Firm

In this study, the questionnaires asked "Is the debt of the firm smaller/ equal to/ larger than the total value of the firm (assets or capital)". The respondents are the three types of debt in the following Table (4.12).

Table (4.12) The Frequency Distribution of Debt of the Firm

Type of Debt	Number of Respondents	Percent
Smaller	269	75.1
Equal to	77	21.5
Larger	12	3.4
Total	385	100.0

Source: Myanmar SMEs Survey 2017

According to the Table (4.12), there were 75.1% of smaller debt of the firm, 21.5% of equal to debt of the firm, and 3.4% of larger debt of the firm than the total value of firm, respectively. It has observed the most debt of the firms is small.

4.2 Multinomial Logistic Regression Analysis of Factors Affecting of Performance of SME

This study used multinomial logistic regression method by taking success of SMEs. A dependent or outcome variable of this study is business performance of SMEs. In this analysis, the statement is the best characterize the firm's overall performance in 2016.

4.2.1 Variable Description

In this study, dependent variables was the performance that "loses" recoded as '1', "break-even" recoded as '2' and "profits" recoded as '3'.

Factors affecting performance of SMEs were used as the independent variables. Selected independent variables along with definition and coding categories were shown in Table (4.13).

Table (4.13) Independent Variables of Study Population

Sr.	Variables	Definitions	Categories (Decode)
1	Education Level	The highest education level completed by the owner, manager and respondents.	1=no bachelor's degree 2=bachelor's degree
2	Years of Experience	Years of experience of owner, manager, and other specify	1=less than equal 5 years 2=between 6-10 years 3=between 11-15 years 4= 16 years and over
3	Ethnicity of the owner	The firm processed the ethnicity of the respondents.	1=Bamar 2=Chinese 3=Indian 4=Other domestic
4	Firm Size	Size of classification of firm	1=micro enterprise 2=small enterprise 3=medium enterprise 4=large enterprise
5	Firm Age	The firm was established from begin years to 2017.	1=less than equal 5 years 2=between 6-10 years 3=between 11-15 years 4= 16 years and over
6	Firm Ownership (or) Legal status	The firm of form ownership/ legal status.	1= family business 2=private firm (sole proprietorship) 3=other (partnership, cooperative, limited company, and other)
7	Internet access	The firms have internet access.	1=yes 2=no
8	Email address	The firms have an official email address.	1=yes 2=no
9	Paved road	The firms have main (paved) road.	1=yes 2=no
10	Assess to rail	The firms have access to rail.	1=yes 2=no
11	Assess to port	The firms have access to port.	1=yes 2=no

Table (4.13) Independent Variables of Study Population (Continued)

Sr.	Variables	Definitions	Categories (Decode)
12	New Technology	The firm has introduced new technology.	1=yes 2=no
13	Employment Status	The firm is selected the most important way in which the enterprise hires workers.	1=newspaper/advertisement 2=through labour exchange 3=recommended by friends relatives 4=personal contacts 5=other (allocated by local authorities)
14	marketing Practices	The firm is advertising in any form.	1=yes 2=no
15	Business Association	Firm member of one or more business association.	1=yes 2=no
16	Debt	The debt of the firm is smaller/equal to/ larger than the total value of the firm	1=Smaller 2=Equal to 3=Larger than
17	Raw Materials	The firm was purchased raw materials and inputs from	1=yes 2=no

Source: Myanmar SMEs Survey 2017

4.2.2 Model Fitting Information

The information of the multinomial logistic regression analysis was identified in the following tables. The findings indicate that there is significant relationship between the entrepreneurial characteristics and performance of SMEs.

The following Table (4.14) represents the result of model fitting information.

Table (4.14) Model Fitting Information

Model	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	570.061			
Final	484.622	85.439	60	0.017

Source: Summary Myanmar SMEs Survey 2017

Table (4.14) contain a likelihood ratio chi-square test, comparing the full model in which containing all the predictors, against a null. Statistical significance indicates that the full model represents a significant improvement in fit over the null model ($x^2_{(60)}$=85.439, p = 0.017).

4.2.3 Goodness-of-Fit

The following Table (4.15) represents the result of goodness of fit test.

Table (4.15) Goodness-of-Fit

	Chi-Square	Df	Sig.
Pearson	773.116	630	0.000
Deviance	476.069	630	1.000

Source: Summary Myanmar SMEs Survey 2017

The Goodness-of-Fit Table (4.15) contains the Deviance and Pearson Chi-Square test, which are useful for the determining whether a model exhibits good fit to the data.

4.2.4 Pseudo R-Square

The following Table (4.16) represents the result of Pseudo R- Square.

Table (4.16) Pseudo R-Square

Cox and Snell	.212
Nagelkerke	.265
McFadden	.148

Source: Summary Myanmar SMEs Survey 2017

According to the Table (4.16), these are Pseudo R-Square values that are treated as rough analogues to the R- Square value in OLS regression. In general, there is no strong guidance in the literature on how these should be used. Cox & Snell R Square, Nagelkerke and McFadden R Square values are 0.212, 0.263 and 0.148 respectively, suggesting that 21.2%, 26.5% and 14.8% of the variance in business success can be explained by variation of independent variables used in the model.

4.2.5 Classification of Multinomial Logistic Model

The following Table (4.17) represents the result of classification of multinomial logistic model.

Table (4.17) Classification of Multinomial Logistic Model

Observed	Predicted			
	Loses	Break even	Profits	Percent Correct
Loses	7	3	13	30.4%
break even	0	24	76	24.0%
Profits	3	15	217	92.3%
Overall Percentage	2.8%	11.7%	85.5%	69.3%

Source: Summary Myanmar SMEs Survey 2017

Classification Table is a contingency table 3 x 3 that should occur or also called the expected frequency based on the empirical data of the dependent variable, where the number of samples that have the category of dependent variable reference or loses of overall performance of SMEs (code 1) is 23 (overall percentage is 2.8%). Total sample 358 manufactures enterprise. Therefore, the overall percentage value before the independent variable is included in the model of 69.3% that is predicted correctly.

4.2.6 Multinomial Logistic Regression Analysis of the performance of SMEs by Selected Variables

The following Table (4.18) shows the results of the multinomial logistic regression analysis and Appendix Table (2).

Table (4.18) Parameter Estimates of the Multinomial Logistic Regression

Overall Performance[a]	break even			profit		
	Exp(B)	95% C.I Exp(B)		Exp(B)	95% C.I Exp(B)	
	OR	Lower	Upper	OR	Lower	Upper
Educational level						
No degree	.500	.137	1.825	.503	.144	1.759
Degree. (ref).						
Year of Experience						
Less than equal 5	1.067	.168	6.773	1.247	.211	7.369
Between 6-10	1.474	.251	8.669	1.965	.359	10.754
Between 11-15	.684	.135	3.460	.744	.157	3.536
16 and over. (ref).						
Ethnicity of the owner						
Bamar	1.296	.255	6.584	1.715	.354	8.315
Chinese	3.776	.302	47.191	3.825	.327	44.700
Indian	.455	.045	4.608	.728	.077	6.872
Other.(ref).						
Firm Size						
Mirco	.174	.001	43.261	.020*	.000	3.392
Small	.086	.000	17.646	.026*	.000	3.584
Medium	.340	.002	72.704	.097*	.001	14.082
Large. (ref).						
Firm Age						
Less than equal 5	1.272	.197	8.210	1.944	.323	11.687
Between 6-10	4.061	.471	34.983	5.073	.627	41.060
Between 11-15	1.675	.337	8.329	1.207	.256	5.697
16 and over. (ref).						
Firm ownership						
Family	3.247	.436	24.183	6.353*	.933	43.246
Private	2.709	.400	18.331	4.608	.742	28.631
Other. (ref).						
Internet access						
Yes	.731	.164	3.248	.316	.075	1.331
No. (ref).						
Email address						
Yes	1.029	.124	8.550	2.067	.280	15.245
No. (ref).						

Table (4.18) Parameter Estimates of the Multinomial Logistic Regression (Continued)

Overall Performance[a]	Break even			Profit		
	Exp(B)	95% C.I Exp(B)		Exp(B)	95% C.I Exp(B)	
	OR	Lower	Upper	OR	Lower	Upper
Paved road						
Yes	.693	.033	14.501	.682	.034	13.537
No.(ref).						
Access to rail						
Yes	.231*	.058	.923	.291*	.077	1.106
No.(ref).						
Access to port						
Yes	.184*	.036	.945	.156*	.035	.693
No.(ref)						
New technology						
Yes	.166	.011	2.568	.652	.061	6.986
No.(ref).						
Employment Status						
Newspaper	8.536	.655	111.278	13.291*	1.236	142.877
Labour exchange	16.694*	.863	322.791	19.810*	1.238	317.101
Friend relative	10.482*	.928	118.427	20.957**	2.190	200.533
Personal contact	3.166	.211	47.453	11.268*	.905	140.301
Other. (ref).						
Marketing: Practices						
Yes	.524	.116	2.377	.414	.098	1.750
No.(ref)						
Business association						
Yes	.083**	.013	.526	.174*	.033	.926
No.(ref).						
The debt of the firm						
Small	8.526*	.701	103.733	3.277	.371	28.921
Equal to	9.485	.630	142.844	2.736	.247	30.316
Large. (ref).						
Raw materials						
Yes	.752	.197	2.874	.796	.219	2.895
No. (ref).						
a. The reference category is: loses.						
*** denotes significant at 1% level, ** denotes significant at 5% level, * denotes significant at 10% level						

Source: Summary Myanmar SMEs Survey 2017

Table (4.18) shows that the estimated results from multinomial logit model are represented. The model compares loses of overall performance with breakeven performance and profit of overall performance on SMEs.

By comparing loses of overall performance versus, break even performance of SMEs. The study shows that entrepreneur's characteristics are not affected on performance of SMEs of. Educational level, year experience and ethnicity of owner were found statistically not significant in explaining entrepreneur with performance of SMEs. In firm characteristic, the variable of access to rail and access to port has a negative and statistically significant relationship with the performance of SMEs. The coefficient for access to rail of SMEs was found to be -1.464; this coefficient was a negative statistically significant effect on the performance of SMEs at 10% level significance. The firm have access to rail was approximately found 0.23 times (OR=0.231, CI=0.058-0.923) less likely to lose as the firm have not access to rail. The coefficient for access to port of SMEs was found to be -1.693; this coefficient was a negative statistically significant effect on the performance of SMEs at 10% level significance. The firm have access to port was approximately found 0.18 times (OR=0.184, CI=0.036-0.945) less likely to lose as the firm have not access to port. According to employment status, it is the most important way in which the selected enterprise hires workers; the variables of employment status have a positive statistically significant relationship with the performance of SMEs at 10% level of significance. Through labour exchange was selected approximately found 16.7 times (OR=16.69, CI=0.863-322.792) and recommended by friends, relatives worker was approximately found 10.5 times (OR=10.48, CI=0.928-118.427) more likely to lose as the firm were selected other employment status. In firm member one or more business associations, the coefficient was to be -2.488 that the variable is 5 % level of significant statistically effect on the performance of SMEs. The firm have business association enterprise was approximately found 0.08 times (OR=0.083, CI=0.013-0.526) less likely to lose as the firm have not business association.

By comparing loses of overall performance versus, profits performance of SMEs. The study shows that entrepreneur's characteristics are not significant effect on performance of SMEs. In firm characteristic, the variable of firm size has a negative statistically significant relationship with the performance of SMEs. The value of the coefficients B, if a subject were to increase the micro size of firm score by one unit, the multinomial logit-odds (OR= 0.135 times) of preferring profits of SMEs to loses of

SMEs would be expected to decrease by 3.937 as compared the large firm size. Similarly, the small firm was approximately found 0.15 times (OR=0.146) of preferring profits of SMEs to loses of SMEs would be expected to decrease by 3.665, and the medium firm was approximately found 0.36 times (OR=0.358) of preferring profits of SMEs to loses of SMEs would be expected to decrease by 2.333 as compared the large firm size. The variable of firm ownership has a positive statistically significant relationship with the performance of SMEs. The family business was approximately found 6.35 times (OR=6.353, CI=0.933-43.426) more likely to profit as other business on performance of SMEs. The coefficient for access to rail and port of SMEs were a negative statistically significant effect on the performance of SMEs at 10% level significance. The firm have access to rail was approximately found 0.29 times (OR=0.291, CI=0.077-1.106) less likely to profit and the firm have access to port was approximately found 0.16 times (OR=0.156, CI=0.035-0.693) less likely to profit as the firm have not that transport.

According to employment status, it is the most important way in which the selected enterprise hires workers; the variables of employment status have a positive statistically significant relationship effect on performance of SMEs. Newspaper selected enterprise hire worker was approximately found 13.29 times, through labour exchange was selected approximately found 19.81 times, recommended by friends, relatives worker was approximately found 20.96 times, and personal contact of selected enterprise worker was approximately found 11.27 times more likely to profit as the firm were selected other employment status. In firm member one or more business associations, the coefficient was to be -1.750 that the variable is 5 % level of significant statistically effect on the performance of SMEs. The firm have business association enterprise was approximately found 0.17 times (OR=0.174, CI=0.033-0.926) less likely to lose as the firm have not business association. Marketing advertise were also not statistically significant relationship with the performance of SMEs.

CHAPTER V
CONCLUSION

This study was conducted with the aim of analyzing the performance of small and medium enterprises in the Yangon region. The analysis of the performance of small and medium enterprises is discussed in this chapter. Some recommendations are made based on findings and discussion, along with a conclusion of the chapter.

5.1 Findings and Discussions

This study examined the predictors of business success of SMEs performance. The purpose of this study was to assess the key factors affecting the performance of SMEs in Yangon region. The study is based on the secondary data which is the dataset from Myanmar Micro, Small and Medium Enterprise Survey conducted in 2017, Yangon Region in which the sample of 358 selected from the 14111 population.

In this study, demographic factors are one of the most important factors in determining the success of a business. The study looked into demographic feature of an entrepreneur such as work experience, and education revealed that there was no relationship between characteristics of entrepreneur and performance of the SMEs. In demographic characteristics there are many factors which might affect the performance of an enterprise including age, sex, ethnicity, and level of education. The study concludes that not all demographic factors such as education level, work experience, and ethnicity of entrepreneur of firms are insignificantly affect the performance of SMEs. Additionally, the study finds that the most educated entrepreneurs were more successful than the less educated ones because they are good at managing in which products, people, and other processes. Finally, the study did not find any significant correlation between educational level of an entrepreneur and performances of their business. The findings did not agree Anakwe and Greenhaus (2000) which suggested that prior work experience was very significant for a small business to be successful. The findings agree with Wangasekara and Surangi (2010) who conducted a study in Ghampaha district, Sri Lanka on SMEs which suggested owners with less education

than college degree owners might encounter financial worries as compared to those with more educated and can maintain their business activities in the market.

The study revealed that business process factors such as form of ownership is a negative significantly affect the performance of SMEs. Under the firm characteristics, the firm age and firm size of SMEs were used to measure the performance of the SMEs. The empirical results showed that the age of SMEs was not significant. Moreover, it found that fire size was a positive statistically significant effect on performance of SMEs. The findings agree Lema (2013) who estimated a study of assessment of the factors affecting performance of SMEs which suggested the coefficient for the firm size was highly statistically significant effect on SMEs performance.

The study revealed that IT business infrastructural such as internet access is insignificant effect on the performance of SMEs. But, Indarti et al., (2013) who suggested the social network and business success are not significantly affected. Under the enterprise facilities such as access to rail and access to port were a negative statistically significant affect the performance of SMEs. Under form of ownership and legal structure of the business was to look on the means of operating SMEs used by the owners and managers to attract more customers. The aim was to see the difference between the SMEs operated under sole proprietorship, family business, incorporated company and partnership respectively in relation to performance. Moreover, form of ownership and legal structure in this study is a statistically significant effect on performance of SMEs. The finding agrees Lema (2013) who suggested that legal structure had no impact on business performance in the studied area.

The influence of entrepreneurial factors on performance of SMEs was determined by examining how the selecting employment status does. Employment status such as the enterprise hires workers is a statistically significant effect the performance of SMEs. However, the member of business association is a positively statistically significant effect on the business performance of SMEs. It has been observed that a business can be successful if it is connected to the other business associations. Due to lack of business membership organizations can affect the business results and slow down the growth of the business.

5.2 Recommendations

There are various global definitions of SMEs depending on the stage of the business. SMEs play an important role in the economic development of both developed and developing countries. SMEs in developing countries are often constrained by lack of entrepreneurial driving factors to successfully start and grow SMEs. Based on the findings of the study, it is recommended that entrepreneurs need regular and intensive training and coaching on vision, goal setting, value addition, technology and new markets development. Other areas recommended for entrepreneur developments are decision making process and business opportunities identifications.

5.3 Further Study

It is anticipated that this study will ignite further research in the area of SMEs performances, especially on other entrepreneurial factors influencing performance of SMEs. It will be interesting to see how these factors augment the studied entrepreneurial factors and their overall influence on SMEs performance in Yangon region and other regions. To facilitate generalization of the finding, the study suggests that another similar study be carried out to determine the influence of entrepreneurial factors on performance of SMEs in Myanmar.

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Appendix Table (1) Likelihood Ratio Tests

Likelihood Ratio Tests				
Effect	Model Fitting Criteria	Likelihood Ratio Tests		
	-2 Log Likelihood of Reduced Model	Chi-Square	df	Sig.
Intercept	484.622[a]	.000	0	.
Educational level	485.830	1.207	2	.547
work experience	486.195	1.573	6	.954
Ethnicity owner	487.770	3.148	6	.790
size classification of firm	501.303	16.680	6	.011
Firm Age	490.033	5.411	6	.492
Firm ownership	488.871	4.249	4	.373
internet access	490.102	5.480	2	.065
email address	486.272	1.650	2	.438
main (paved) road	484.689	.067	2	.967
access to rail	489.366	4.744	2	.093
access to port	490.354	5.731	2	.057
new technology	488.373	3.751	2	.153
the enterprise hires worker	495.371	10.749	8	.216
marketing practices: advertise in any form	486.169	1.547	2	.461
business associations	491.654	7.032	2	.030
the debt of the firm	488.655	4.033	4	.402
raw materials and inputs from	484.800	.178	2	.915

The chi-square statistic is the difference in -2 log-likelihoods between the final model and a reduced model. The reduced model is formed by omitting an effect from the final model. The null hypothesis is that all parameters of that effect are 0.

a. This reduced model is equivalent to the final model because omitting the effect does not increase the degrees of freedom.

Appendix Table (2) Parameter Estimates

Parameter Estimates									
Overall performance[a]		B	Std. Error	Wald	df	Sig.	Exp(B)	95% Confidence Interval for Exp(B)	
								Lower Bound	Upper Bound
b	Intercept	.348	3.448	.010	1	.920			
	[Educational level]								
	[No degree=1]	-.693	.661	1.101	1	.294	.500	.137	1.825
	[Degree=2]	0[b]	.	.	0	.	.	.	.
	[work experience]								
	[less than equal 5=1]	.065	.943	.005	1	.945	1.067	.168	6.773
	[between 6-10=2]	.388	.904	.184	1	.668	1.474	.251	8.669
	[between 11-15=3]	-.380	.827	.211	1	.646	.684	.135	3.460
	[16 and over=4]	0[b]	.	.	0	.	.	.	.
	[Ethnicity owner]								
	[Bamar=1]	.259	.829	.097	1	.755	1.296	.255	6.584
	[Chinese=2]	1.329	1.289	1.063	1	.303	3.776	.302	47.191
	[Indian=3]	-.787	1.181	.444	1	.505	.455	.045	4.608
	[Other=4]	0[b]	.	.	0	.	.	.	.
	[size classification of firm]								
	[mirco=1]	-1.752	2.816	.387	1	.534	.174	.001	43.261
	[small=2]	-2.456	2.718	.817	1	.366	.086	.000	17.646
	[medium=3]	-1.078	2.737	.155	1	.694	.340	.002	72.704
	[large=4]	0[b]	.	.	0	.	.	.	.
	[Firm Age]								
	[less than equal 5=1]	.241	.951	.064	1	.800	1.272	.197	8.210
	[between 6-10=2]	1.401	1.099	1.627	1	.202	4.061	.471	34.983
	[between 11-15=3]	.516	.818	.398	1	.528	1.675	.337	8.329
	[16 and over=4]	0[b]	.	.	0	.	.	.	.
	[Firm ownership]								
	[Family =1]	1.178	1.024	1.322	1	.250	3.247	.436	24.183
	[Private =2]	.997	.975	1.044	1	.307	2.709	.400	18.331
	[Other=3]	0[b]	.	.	0	.	.	.	.
	[internet access=1]Yes	-.314	.761	.170	1	.680	.731	.164	3.248
	[internet access=2]No	0[b]	.	.	0	.	.	.	.
	[email address=1]Yes	.029	1.080	.001	1	.979	1.029	.124	8.550
	[email address=2]No	0[b]	.	.	0	.	.	.	.
	[main (paved) road=1]Yes	-.367	1.552	.056	1	.813	.693	.033	14.501
	[main (paved) road=2]No	0[b]	.	.	0	.	.	.	.
	[access to rail=1]Yes	-1.464	.706	4.302	1	.038	.231	.058	.923
	[access to rail=2]No	0[b]	.	.	0	.	.	.	.
	[access to port=1]Yes	-1.693	.835	4.110	1	.043	.184	.036	.945

	[access to port=2]No	0[b]	.	.	0	.	.	.	.
	[new technology=1]Yes	-1.799	1.399	1.653	1	.199	.166	.011	2.568
	[new technology=2]No	0[b]	.	.	0	.	.	.	.
	Employment Status								
	[Newspaper=1]	2.144	1.310	2.679	1	.102	8.536	.655	111.278
	[Labour exchange=2]	2.815	1.511	3.470	1	.062	16.694	.863	322.791
	[Friend relative=3]	2.350	1.237	3.608	1	.058	10.482	.928	118.427
	[Personal contact=4]	1.153	1.381	.696	1	.404	3.166	.211	47.453
	[Other=5]	0[b]	.	.	0	.	.	.	.
	[marketing: advertise=1]Yes	-.646	.771	.701	1	.402	.524	.116	2.377
	[marketing: advertise=2]No	0[b]	.	.	0	.	.	.	.
	[business associations=1]Yes	-2.488	.941	6.987	1	.008	.083	.013	.526
	[business associations=2]No	0[b]	.	.	0	.	.	.	.
	[the debt of the firm]								
	[small=1]	2.143	1.275	2.826	1	.093	8.526	.701	103.733
	[equal to=2]	2.250	1.384	2.643	1	.104	9.485	.630	142.844
	[large=3]	0[b]	.	.	0	.	.	.	.
	[raw materials=1]Yes	-.285	.684	.174	1	.677	.752	.197	2.874
	[raw materials=2]No	0[b]	.	.	0	.	.	.	.
c	Intercept	1.972	3.160	.390	1	.532			
	[Educational level]								
	[No degree=1]	-.688	.639	1.158	1	.282	.503	.144	1.759
	[Degree=2]	0[b]	.	.	0	.	.	.	.
	[work experience]								
	[less than equal 5=1]	.220	.907	.059	1	.808	1.247	.211	7.369
	[between 6-10=2]	.675	.867	.606	1	.436	1.965	.359	10.754
	[between 11-15=3]	-.295	.795	.138	1	.710	.744	.157	3.536
	[16 and over=4]	0[b]	.	.	0	.	.	.	.
	[Ethnicity owner]								
	[Bamar=1]	.540	.805	.449	1	.503	1.715	.354	8.315
	[Chinese=2]	1.341	1.254	1.144	1	.285	3.825	.327	44.700
	[Indian=3]	-.317	1.145	.077	1	.782	.728	.077	6.872
	[Other=4]	0[b]	.	.	0	.	.	.	.
	[size classification of firm]								
	[mirco=1]	-3.937	2.632	2.238	1	.135	.020	.000	3.392
	[small=2]	-3.665	2.521	2.113	1	.146	.026	.000	3.584
	[medium=3]	-2.333	2.540	.844	1	.358	.097	.001	14.082
	[large=4]	0[b]	.	.	0	.	.	.	.
	[Firm Age]								
	[less than equal 5=1]	.665	.915	.527	1	.468	1.944	.323	11.687
	[between 6-10=2]	1.624	1.067	2.317	1	.128	5.073	.627	41.060
	[between 11-15=3]	.188	.792	.056	1	.812	1.207	.256	5.697

	[16 and over=4]	0[b]	.	.	0	.	.	.	.
	[Firm ownership]								
	[Family =1]	1.849	.979	3.570	1	.059	6.353	.933	43.246
	[Private =2]	1.528	.932	2.688	1	.101	4.608	.742	28.631
	[Other=3]	0[b]	.	.	0	.	.	.	.
	[internet access=1]Yes	-1.152	.734	2.464	1	.116	.316	.075	1.331
	[internet access=2]No	0[b]	.	.	0	.	.	.	.
	[email address=1]Yes	.726	1.020	.507	1	.476	2.067	.280	15.245
	[email address=2]No	0[b]	.	.	0	.	.	.	.
	[main (paved) road=1]Yes	-.383	1.525	.063	1	.802	.682	.034	13.537
	[main (paved) road=2]No	0[b]	.	.	0	.	.	.	.
	[access to rail=1]Yes	-1.234	.681	3.283	1	.070	.291	.077	1.106
	[access to rail=2]No	0[b]	.	.	0	.	.	.	.
	[access to port=1]Yes	-1.858	.761	5.967	1	.015	.156	.035	.693
	[access to port=2]No	0[b]	.	.	0	.	.	.	.
	[new technology=1]Yes	-.428	1.210	.125	1	.724	.652	.061	6.986
	[new technology=2]No	0[b]	.	.	0	.	.	.	.
	Employment Status								
	[Newspaper=1]	2.587	1.212	4.559	1	.033	13.291	1.236	142.877
	[Labour exchange=2]	2.986	1.415	4.455	1	.035	19.810	1.238	317.101
	[Friend relative=3]	3.042	1.152	6.971	1	.008	20.957	2.190	200.533
	[Personal contact=4]	2.422	1.287	3.543	1	.060	11.268	.905	140.301
	[Other=5]	0[b]	.	.	0	.	.	.	.
	[marketing: advertise=1]Yes	-.882	.736	1.437	1	.231	.414	.098	1.750
	[marketing: advertise=2]No	0[b]	.	.	0	.	.	.	.
	[business associations=1]Yes	-1.750	.853	4.203	1	.040	.174	.033	.926
	[business associations=2]No	0[b]	.	.	0	.	.	.	.
	[the debt of the firm]								
	[small=1]	1.187	1.111	1.141	1	.285	3.277	.371	28.921
	[equal to=2]	1.007	1.227	.673	1	.412	2.736	.247	30.316
	[large=3]	0[b]	.	.	0	.	.	.	.
	[raw materials=1]Yes	-.228	.659	.120	1	.729	.796	.219	2.895
	[raw materials=2]No	0[b]	.	.	0	.	.	.	.
a. The reference category is: loses.									
b. This parameter is set to zero because it is redundant.									